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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,088	05/30/2006	Tokumi Kobayashi	P30048	1724
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EXAMINER RAO, SHEELA S				
ART UNIT 2123		PAPER NUMBER		
NOTIFICATION DATE 02/24/2009		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/596,088

Applicant(s)

KOBAYASHI, TOKUMI

Examiner

Sheela Rao

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-44 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 23-44 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 30 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/5508)
Paper No(s)/Mail Date see attached
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1. This Office action is in response to papers filed on 30 May 2006.
2. Claims 23-44 are pending and presented for examination. Claims 1-22 are canceled by a Preliminary Amendment.
3. Applicant's submission of references on form PTO-1449, filed on August 22, 2006, has been considered. The Foreign language documents have been considered only to the extent of the English translated documents submitted. A signed copy of the form is attached.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 23, 26, and 31 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The above stated claims include the citation of "each of information recording portions" which lacks in proper functional antecedence as there is no information recording portion stated or described prior to such citation. The lack of an information recording portion hinders the claim limitation in providing proper functional support for including "each of" such an element.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 23-27, 31-32, 34, 36-38, 42, and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent Application Publication No. US 2001/0021265 A1 to Wilson et al.

The reference of prior art by Wilson et al. (hereinafter "Wilson") teaches of a method for assembling integrated circuit devices which includes the elements of the instant invention as stated herewith.

Claim 23 is directed to a circuit substrate production method that comprise a multi-piece substrate is employed which is to be separated into a plurality of pieces at one or each of a plurality of separation levels (taught by Wilson in paragraph [0008] wherein dicing of the wafers is explained); each of information recording portions, each of which is provided so as to correspond to each substrate before separation and after separation at each separation level, is configured such that identification information containing information related to management and manufacturing at each of the manufacturers is referenceable and recordable (taught in paragraph [0033] of Wilson wherein updateable and storable information regarding identification, management and

manufacturing of the substrates is explained); the substrate manufacturer records, on each of the information recording portions, identification information formed of information related to the entire substrate and information representing relative relationship about the separation at each of the separation levels and delivers the substrate to the mounting manufacturer is taught in paragraphs [0020-0023] wherein the information is recorded and updated throughout the assembly process.

Claim 24 requires the information to be recorded as a two-dimensional code on the information recording portions. Wilson teaches this in paragraph [0023] wherein the use of optically-readable code, a two-dimensional code, is stated.

Claims 25, 32, 36, and 38 cite that in addition to the identification information of each of the substrates themselves, information related to a production step at the substrate manufacturer and information related to a production step at the mounting manufacturer are recorded on the information recording portions at the substrate manufacturer. In paragraph [0038], information related to the equipment and the substrates are stated as being included in the identification information.

The limitations of instant claim 26 include that cited by claims 23 and 25 which are taught as stated above.

Claim 27 is directed to the mounting of the substrate, specifically, at the mounting manufacturer, mounting is performed on the substrate, which has information about a production step at the mounting manufacturer recorded on the information recording portions at the substrate manufacturer in addition to the identification information about each of the substrates themselves, based on the information which is read from the

information recording portions and is related to the production step. Wilson teaches the mounting process as the die attach step in paragraph [0035].

Claim 31 is directed to a circuit substrate production system which includes the elements of claim 23, in which a multi- piece substrate, which is to be separated into a plurality of pieces at one or each of a plurality of separation levels and has information recording portions each of which is provided so as to correspond to each substrate before separation and after separation at each separation level, is produced at a substrate manufacturer, the substrate produced at the substrate manufacturer being delivered to a subsequent mounting manufacturer, and in which an electronic component is mounted on the substrate at the mounting manufacturer to thereby produce a circuit substrate, wherein: the information recording portions are configured such that identification information containing information related to management and manufacturing in each of the manufacturers is referenceable and recordable; recording means, which records, on each of the information recording portions of the substrate, identification information formed of information related to the entire substrate and information representing relative relationship about the separation at each of the separation levels, is provided in the substrate manufacturer; and read-out means, which read information from the information recording portions, is provided in the mounting manufacturer. The limitations as with claim 23 are taught as stated above. With regard to the limitations of the recording means and read-out means, Wilson teaches the use of bar codes or OCR codes for recording the identification information and uses bar code readers and/or OCR code readers for reading the stored information in paragraph

[0037]. The limitations of claims 37 and 44 are taught in paragraph [0037] as the limitations are parallel.

Claim 34 is directed to a multi-piece substrate which has one or a plurality of separation levels and is to be separated into a plurality of substrates in each of the separation levels, wherein: information recording portions, each of which is provided so as to correspond to each substrate before separation and after separation at each separation level, are configured such that identification information containing information related to management and manufacturing in each of manufacturers is referenceable and recordable; and identification information formed of information related to the entire substrate and information representing relative relationship about the separation at each of the separation levels is recorded on each of the information recording portions. Wilson teaches this feature of the instant invention in paragraph [0020].

Claim 42 defines a circuit substrate production method in which a substrate produced by a substrate manufacturer is delivered to a subsequent mounting manufacturer for mounting a component at the mounting manufacturer to thereby produce a circuit substrate, wherein the substrate manufacturer records identification information on a substrate, which has an information recording portion configured such that identification information containing information related to management and manufacturing in each of the manufacturers is referenceable and recordable, and delivers the substrate to the mounting manufacturer. The limitations include those in claim 23 and are taught as stated above. The delivery of the substrate to the mounting

manufacturer is taught in paragraph [0043] wherein it is taught that the assembly step includes various processing steps and in paragraph [0023] the mounting process is described.

Claim 44 calls for a circuit substrate wherein an information recording portion is provided in a substrate and identification information containing information related to management and manufacturing in each of manufacturers is constructed in the information recording portion so as to be referenceable and recordable. This feature is taught in paragraph [0033] of the reference to Wilson wherein updateable and storable information regarding identification, management and manufacturing of the substrates is explained.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 28-30, 33, 35, 39-41 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication No. US 2001/0021265 A1 to Wilson et al., as applied to claims 23, 26, 31, and 34, further in view of US Patent Application Publication No. US 2002/0103563 A1 to Izawa et al.

The limitations as taught by Wilson are stated heretofore.

Claims 28, 39, and 41 include the elements of claim 23 and further define the production step wherein production step information about each of the substrates and the identification information read from the information recording portions are combined in the substrate manufacturer and the mounting manufacturer, are transmitted to a data processing center connected via a communication network, and are data-processed in the data processing center to thereby construct various databases, and wherein the substrate manufacturer and the mounting manufacturer perform required processing by retrieving required data from the databases via the communication network. The prior art of Wilson teaches the elements of the claimed limitations as aforementioned but fails to teach the information being transmitted to a data processing center via a communications network. As shown in Figs. 1 and 6 and stated in the abstract, the reference of Izawa et al. (hereinafter "Izawa") teach a computer environment is used wherein a database stores processing conditions and the computers of the equipment and manufacturers are able to communicate over a communication network. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used network communication capabilities as per Izawa with the method and system of Wilson so as to enable direct transmission of data and information in a more efficient manner and to provide information automatically as stated in the abstract of Izawa.

Claims 29 and 33 further defines the steps of claims 26 and 31, wherein production step information about each of the substrates and the identification information read from the information recording portions are combined in the substrate

manufacturer and the mounting manufacturer, are transmitted to a data processing center connected via a communication network, and are data-processed in the data processing center to thereby construct various databases, and wherein the substrate manufacturer and the mounting manufacturer perform required processing by retrieving required data from the databases via the communication network. The prior art of Wilson teaches the elements of the claimed limitations as aforementioned but fails to teach the information being processed by a data processing center and having the ability to build other databases. As stated in paragraphs [0017] and [0050], Izawa teaches a computer environment wherein a database is used and it is well known that numerous databases can be built to store and retrieve a variety of data processing conditions. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used multiple databases as is well known with the inventions of Wilson and Izawa so as to increase the ability of collecting more information and to provide the information automatically as stated in paragraph [0050] of Izawa.

Claims 30, 35, and 40 state the databases contain information about production histories at both the substrate manufacturer and the mounting manufacturer. Izawa teaches the use of production histories as described in the abstract and paragraph [0049].

Claim 43 is directed to a circuit substrate production method in which a substrate produced by a substrate manufacturer is delivered to a subsequent mounting manufacturer for mounting a component at the mounting manufacturer to thereby

produce a circuit substrate, wherein when the substrate manufacturer records identification information on a substrate, which has an information recording portion configured such that identification information containing information related to management and manufacturing in each of the manufacturers is referenceable and recordable, and delivers the substrate to the mounting manufacturer, production step information related to the substrate and the identification information read from said information recording portion are combined at the substrate manufacturer and the mounting manufacturer, are transmitted to a data processing center connected via a communication network, and are data-processed in the data processing center to thereby construct various databases, and in that the substrate manufacturer and the mounting manufacturer perform required processing by retrieving required data from the databases via the communication network. The limitations of claim 43 are parallel to that of claim 42 as taught above. In addition, claim 43 includes the limitations of claim 28 wherein the production information being transmitted to a data processing center via a communication network is stated. However, the prior art of Wilson teaches the elements of the claimed limitations as aforementioned but fails to teach the information being transmitted to a data processing center via a communications network. As shown in Figs. 1 and 6 and stated in the abstract, the reference of Izawa et al. (hereinafter "Izawa") teach a computer environment is used wherein a database stores processing conditions and the computers of the equipment and manufacturers are able to communicate over a communication network. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used network

communication capabilities as per Izawa with the method and system of Wilson so as to enable direct transmission of data and information in a more efficient manner and to provide information automatically as stated in the abstract of Izawa.

Conclusion

10. For the reasons stated above, the limitations of the instant invention are taught and/or fairly suggested by the prior arts of record; thereby, rendering the instant claims unpatentable.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela Rao whose telephone number is (571) 272-3751. The examiner can normally be reached Monday - Wednesday from 9:00 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah, can be reached on (571) 272-2279. The fax number for the organization where this application or any proceeding papers has been assigned is (571) 273- 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. It should be noted that status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see [http:// pair-direct.uspto.gov](http://pair-direct.uspto.gov). Should any questions arise regarding access to the Private PAIR

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kamini S Shah/

Supervisory Patent Examiner, Art Unit 2128

/Sheela Rao/
Examiner, Art Unit 2128
February 11, 2009